SECTION FIVE – ATHLETIC FIELDS

5.1 Athletic Facility Needs Analysis Methodology

The process for assessing the need for additional facilities is predicated on the classic method of Supply/Demand/Need. In this process, the supply is the actual field availability in any given period of the year. Thus, if a baseball field's outfield is used for soccer in the fall, the field is counted as a baseball field in the spring and a soccer field in the fall. Adjustments are made for rainouts that require make-up games, the time of sunset for the period and fields taken out of service for restoration. The evaluation period is always a week since the majority of schedules repeat weekly. Once the supply template is set for the given period, the result is the total number of hours of field availability.

The demand is the actual current usage by each sport for the most recent year. This can be adjusted by population increases and estimates of latent demand as well as other factors. The usage can be allocated to specific fields so that the usage pattern becomes clear. In traditional assessments, a standard is used to measure the need. This can be either a "population standard" or a "service level standard." A population standard would identify the facility and give it a frequency of occurrence, e.g., one Little League field for every 5,000 residents. In a city like Mountain View, that standard would mean the need for 14 Little League fields. Such generic numbers have drawbacks and inaccuracies and do not address the issues of scarcity and expense/cost of resources. The standard used in this process is a "modified service level standard" which is based upon a community-identified standard to meet a desired level of service.

The need is calculated by distributing the hours of demand over the fields used by each sport and league division. Thus, Little League Baseball is allocated to Little League fields, girls' softball is allocated to softball fields and so forth. This allows analysis of the field utilization and can, when appropriate, be used to redistribute use for more effective field management. The same analysis can indicate which type of field is needed. A more detailed look at the Mountain View athletic facilities is provided below.

Athletic Field Supply

The supply of athletic fields in Mountain View appears to be a major issue and is exacerbated by the lack of available undeveloped land to increase the number of fields and a strong demand to maintain/increase undeveloped open space. While many jurisdictions face competition from year-round sports, as does

Mountain View, the population is also composed of a large percentage of young adults in the 19-34 age group that have limited opportunities for athletic participation. This situation generally leads to a higher incidence of latent demand, which is only accurately measured by a survey that randomly samples the population to assess the level of demand that exceeds the current participation. The extent of latent demand may be a moot point if the current demand exceeds the available supply of facilities, especially if it exceeds the City's capacity to provide facilities to meet additional demand. The key elements in assessing need for athletic facilities are described in the following pages. They include supply, demand and need.

Athletic Fields

There are essentially three types of Athletic Fields: (1) diamond fields—used for baseball and/or softball; (2) rectangular fields that can be used for football, soccer, field hockey, lacrosse and other similar games; and (3) overlay fields, which can be defined as the practice of lining out a designated field on top of an existing field used for a different purpose. The most common overlay is to use one or more diamond outfields to create a soccer or football field. Table 1 below shows the fields used in Mountain View.

Athletic Field Supply Factors

There actually was a time when each sport had a season and during that season the sport had a field assigned for that sport's use. With the advent of year-round participation in many of the sports, determining the availability of athletic fields has become more complex. The factors conditioning availability described below are: playability, culture of use, user transformation of assigned fields and climate.

The primary factor is field "*playability.*" If the field is safe, it will generally be used. It may not have grass or other aesthetic features and may become degraded through overuse but is still considered by the user as "playable." The primary impacts on athletic field "playability" include: rain; field lighting; soil type; length of use; intensity of use; and maintenance. In Mountain View, the major impacts to playability are year-round use and marine clay soils, which make a robust turf program all but impossible. The primary field shortage period occurs in the November-through-March time frame, when there is inadequate lighting. If the 25 existing fields were able to withstand the use, lighting a few fields could eliminate the entire deficit of fields. The overuse of fields can be resolved by installing synthetic turf fields. A lighted synthetic turf field will provide a minimum of 67 percent increased availability. Given the

history of spring rain events and the clay soils, Mountain View would get greater benefits from a lights and synthetic turf combination than synthetic or lights alone. These benefits include high-quality, high-use fields and potentially reduced operating costs.

The second key factor is "*culture of use,*" or how a community uses its fields over time. The community use of fields evolves over time and dictates the way the fields will be used. Changing that culture is very difficult and may affect the entire supply of volunteers that make the athletic leagues functional. In some jurisdictions, based on culture of use they may not play on a given day, or may start practices and games earlier or later. In Mountain View, the athletic programs start relatively early, around 4:00 p.m. This allows for a bit of sunlight in the winter afternoons, but the lack of field lighting is the single biggest deficit and constraint for the athletic program.

A third factor is the "*user transformation of assigned fields.*" This describes the difference in how fields are permitted for use and how the user groups lay out and use the field space. Some of that variance is due to definitions, e.g., younger participants may turn a regulation soccer field into several small-sided soccer fields for use. Other variations are a reaction to overcrowding where a field may be modified to provide space for more users. In Mountain View, all of these characteristics are present. Open play areas are used to make small-sized soccer fields and each sport seems to have a method for allowing greater usage than the fields permitted. The groups do this by turning spaces into multiple fields through mobile goals and backstops. The result is often overuse impacts in wider areas of the fields.

The last and most obvious factor is the "*climate.*" In Mountain View, during the late fall to early spring, the fields are often wet and unavailable for periods after rain events due to the marine clay soils. Mountain View also has an Athletic Field Use Policy that takes a field out of service when it reaches a certain point of degradation or when it is wet. The climate allows for near year-round participation that may affect any given sport so the demand for fields far exceeds their capacity for playability and they have to be taken out of service.

In the following Table 1—*Designated Spring and Fall Fields,* the distribution of fields by season of the year is shown for north and south parks. Since baseball and softball are played in the spring the majority of fields are configured as diamonds. In the fall, the diamonds are often changed to soccer fields by marking the outfields. Officially, Mountain View has 20 field areas. In the fall, there are only 18 fields since two of the soccer fields require both outfields of two smaller diamonds.

Designated Spring and Fall Athletic Fields						
Park Site Name	**Field Area**	**Spring**		**Fall**		**Comments**
North Parks		**Diamond**	**Rectangular**	**Diamond**	**Rectangular**	
Crittenden	Callahan	1 SB 60'/65'		1 SB 60'/65'		Lighted, Fenced 304'C
	Crittenden	1 SB 60'/65'			1 Overlay FB & Soccer	Lighted
Monta Loma	Field A	1 BB 60'		1 BB 60'		Fenced
	Field B		1 small, U-10		1 small, U-10	1BB Practice
Slater	Slater	1 BB			1 Overlay Soccer	2 portable backstops for LL/SB use
Stevenson	Stevenson	1 SB 60'			1 Overlay FB & Soccer *	Also used for T-Ball
	Stevenson	1 SB 60'				
Whisman	Whisman	1 BB 60'			1 Overlay Soccer	
South Parks		**Diamond**	**Rectangular**	**Diamond**	**Rectangular**	**Comments**
Bubb	Bubb	1 BB/SB 60'			1 Overlay Soccer	Some T-Ball
Castro	Castro		Open Play Area		Open Play Area	Used for soccer
Cooper	East	1 BB/SB 60'			1 Overlay Soccer*	skinned
	West	1 BB/SB 60'				skinned
Eagle	Eagle		Open Play Area		Open Play Area	Used for Soccer Spring/Fall
Graham Sports Complex	Grass	1 BB/SB			1 Overlay Soccer	All weather competition track. Unlit FB, Soc & Lax
	Synthetic		1 Soccer		1 Overlay Soccer	
Huff	Huff	1 BB 60'			1 Overlay Soccer	
Landels	Landels	1 BB			1 Overlay	
McKelvey	Large	1 BB 90'		1 BB 90'		Lighted, Fenced, Used for Football
	Small	1 BB 60'		1 BB 60'		Not Lighted
Sylvan	Sylvan		Open Play Area		Open Play Area	Used for soccer and Volleyball
Park Sites = 14	Field Areas = 20	15	5	4	14*	*Stevenson & Cooper overlay 2 diamonds

Table 1—Designated Athletic Fields—Spring and Fall

Athletic Field Demand

Demand for athletic field use in Mountain View is typical in that 5 percent to 7 percent of the population participates in active organized sports. In 2006, there were an estimated 7,731 registrations or 10.6 percent of the City population. However, few individuals participate in only one sport or for only one season. Consequently, the actual percentage of individuals participating is lower, at slightly more than half of the total registrations. Two variables impact this demand level.

Low Number of Fields. The first variable impacting the demand level is the relatively low number of fields. Mountain View has twenty (20) field areas for a population of 70,000. This is low by either of two methods used. Prior to 1990, the NRPA had Suggested Facility Development Standards that indicated an average of one athletic field of some kind per 2,000 residents, or which would have suggested 35 fields for Mountain View. A more accurate measure is the actual number of participants currently using the athletic fields. For fields with no lights, the demand in the early spring and late fall is usually much higher than it is toward the summer due to fewer hours of daylight. Consequently, one unlit field will generally support 5 to 7 teams through a season. In Mountain View, the lack of lights would mean that there is a need for between 35 and 50 fields. Lighted fields can accommodate 10 or more teams per field, depending on weather, which would mean that Mountain View would have an adequate number of fields if additional existing fields were lighted. Lighted fields, however, would only exacerbate the playability problems on the fields.

Latent Demand. The second variable is the "latent" demand. Latent demand can be defined as the percentage of additional demand that exists but is not part of the current participation because there is no space or time for them to participate. There are a number of indicators that Mountain View has a fairly high level of latent demand. One is the number of "unpermitted" teams or incidences of "unpermitted use." Both refer to the practice of searching for fields that are not being used and playing until you are "asked to leave" the field by a permit holder. Anecdotal reports suggest a significant amount of field unpermitted use which would indicate a high level of latent demand. In calculating demand for the athletic fields, the consultant has used 15 percent as the latent demand figure. This number would represent another 525 registered participants per season.

Current Use

The participating organizations and registrants that make up the current use demand are presented in Table 2 on the following page:

Mountain View Field Use Summary 2006

Demand Factors	Season		League Participants		Teams			Practices			Games		Rain/Make up	Field Use			Comments
Organization	Season	Dates	Age(s)	Qty (Max)	Max Indiv/Team	# Teams	Total Players	Qty/Wk	Max Hrs/Day	Hrs/WE	Qty/Wk	Max Hrs/Game	# Days, Games	Field Size(s)	Fields Used Qty	Field Permit List	
Mountain View Little League-Baseball	Spring	2/15-7/15	5-14	350	14	28	392	3	3	20	30	2.5	60	60' & 90' basepath	14	McKelvey (big/little); Monta Loma main/grass; Slater dirt/grass; Whisman dirt/grass; Landels dirt/grass; Bubb dirt/backstop/grass; Eagle	
	Fall	8/20-11/19	5-14	50	14	4	56	3		0							
Mountain View Babe Ruth-Baseball	Spring	3-7	13-19	170	16	10	160	1	1	0	12	2	5	90' base path	1	McKelvey (big)	
	Fall	9-11	13-19	150	16	10	160			0	12	2	5		1		
Los Altos-Mountain View Pony League-Baseball	Spring	2-8	5-18	1000	13	85	1105	2	4	8	24	3	2	60' & 90' basepath	4/MV & 0/LA	Bubb; Cooper East; Cooper West; Huff	
Mountain View Los Altos (MVLA)-Girls Softball	Spring	2-7	5-15	460	13	40	520	2	2	0	2	2	10	60' basepath	7	Stevenson-2; Callahan; Crittenden; Slater; Whisman; Others for 6U & 8U practice	Graham added 2007
NOVA Girls Travel Softball	Summer/Fall	6/1-12/1	8-18	90	12	7	12	3	3	0	0	0	0	60' to 90' basepath	2	Stevenson.	Travel Team. No games in MV
City of Mountain View-Recreation Division-Adult	Spring/Fall	4/1-11/7	18U	450	15	42	630	N/A	N/A	N/A	18	1.25	10	60' basepath	2	Callahan; Crittenden	Leagues: COED, Men's C, Men's C3 & Men's D
New Millenia Athletic Club Flag Football (Mens)	Spring/Summer	4-7	18U	70	10	7	70	0	0	0	6	0.75	0	60' basepath	1	Crittenden	
Mountain View Marauders Football	Fall	7/30-11/29	7 - 15	150	35	5	175	3	2	0	5	2	0		3	Stevenson - August only; Crittenden, McKelvey, + Graham 2007	No games in MV prior 2007
Mountain View Marauders Cheerleading	Fall	7/30-11/29	7 - 15	150	35	5	175	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Whisman Sports Center and MVSP	
AYSO 45 Youth Soccer	Fall	8/15 -11/16	U8	110	10	11	110	0	0	0	1	1.5	Infrequent	varies	1	Bubb[a]	Boys
AYSO 45 Youth Soccer	Fall	8/15-11/16	U8	90	10	9	90	0	0	0	1	1.5	Infrequent	varies	1	Bubb[a]	Girls
AYSO 45 Youth Soccer	Fall	8/15-11/15	U7	160	8	20	160	1	1	0	1	1.5	Infrequent	varies	1	LASD[a]	Boys
AYSO 45 Youth Soccer	Fall	8/15-11/16	U7	96	8	12	96	1	1	0	1	1.5	Infrequent	varies	1	Huff[a]	Girls
AYSO 45 Youth Soccer	Fall	8/15-11/15	U8	160	10	16	160	1	1	0	1	1.5	Infrequent	varies	1	LASD[a]	Boys
AYSO 45 Youth Soccer	Fall	8/15-11/15	U8	118	10	12	120	1	1	0	1	1.5	Infrequent	varies	2	Castro[a], LASD[a]	Girls
AYSO 45 Youth Soccer	Fall	8/15-11/15	U9	153	13	12	156	1	1	0	1	1.5	Infrequent	varies	2	Bubb[a], Huff[a]	Boys
AYSO 45 Youth Soccer	Fall	8/15-11/15	U10	116	13	9	117	2	1.25	0	1	1.5	Infrequent	varies	1	Slater[a]	Boys
AYSO 45 Youth Soccer	Fall	8/15-11/15	U10	194	13	15	195	2	1.25	0	1	1.5	Infrequent	varies	2	Landels[a], Huff[a]	Girls
AYSO 45 Youth Soccer	Fall	8/15-11/15	U12	153	13	12	156	2	1.25	0	1	1.5	Infrequent	varies	1	Crittenden[a]	Boys
AYSO 45 Youth Soccer	Fall	8/15-11/15	U12	116	13	9	117	2	1.25	0	1	1.5	Infrequent	varies	1	Whisman[a]	Girls
AYSO 45 Youth Soccer	Fall	8/15-11/15	U14	75	15	5	75	2	1.25	0	1	1.5	Infrequent	varies	1	Cooper[a]	Boys
AYSO 45 Youth Soccer	Fall	8/15-11/15	U14	74	15	5	75	2	1.25	0	1	1.5	Infrequent	varies	1	Cooper[a]	Girls
AYSO 45 Youth Soccer	Fall	8/15-11/15	U16	28	14	2	28	2	1.5	0	1	1.5	Infrequent	varies	1	Stevenson[a]	Boys
AYSO 45 Youth Soccer	Fall	8/15-11/15	U16	34	17	2	34	2	1.5	0	1	1.5	Infrequent	varies	1	Stevenson[a]	Girls
AYSO 45 Youth Soccer	Fall	8/15-11/15	U19	28	14	2	28	2	1.5	0	1	1.5	Infrequent	varies	1	Stevenson[a]	Boys
AYSO 45 Youth Soccer	Fall	8/15-11/15	U19	19	19	1	19	2	1.5	0	1	1.5	Infrequent	varies	1	Stevenson[a]	Girls
MVLA Soccer Club (competitive/travel)	Year round; highest use Fall/Spring	4-7; 8-12	U8-U19	800	16	50	900	2-3/wk	2	1/WE	30	2	8	varies	11	Monta Loma, Crittenden, Callahan, Stevenson, Cooper, Huff, Eagle, Castro, Sylan, Graham, Whisman.	Male & Female; Advocates all weather turf fields and lighting
Graham Middle School	Fall, Winter, Spring	8/28-6/17	11-14			5 per season	0	2	2	0	2	3.5	3	Diamond & Rectangle	1	Graham	Male & Female; Also use MVSP
Crittendon Middle School	Winter/Spring	2/26-4/5; 4/7-5/16	11-14	140	35 soccer; 40 track	2	140	4-5/wk	1.5		2	2		Rectangle	1	Crittenden and Graham 2007	Male & Female; also use MSC
Mountain View Recreation - Youth Sports	Year round		5-12	1500	40 per class/camp		1500	4-5/wk	1.5				5	Diamond & Rectangle	3	Rengstorff, Cooper, Monta Loma	Soccer, Baseball, Flag Football
							7,731										

Table 2—Athletic Field Use Summary 2006

5.2 Athletic Facility Assessment Summary and Prioritization

The primary impacts on athletic field availability include:

1. The amount and frequency of soaking rains during the November-to-March time period of the year;

2. The lack of field lighting during the shortened days of the fall, winter and spring;

3. The marine clays that compose the majority of the City's soils and make rain events a two-day impact on field use;

4. The high demand for year-round field use that impacts the recovery capability of turf and, thus, the condition of the fields;

5. There are adequate fields during periods of no rain and longer days. However, even under these conditions, the intensity of use results in field deterioration. The soil conditions prevent developing good, sustainable turf, which requires frequent irrigation during dry periods. The cost of water is becoming a factor in many jurisdictions.

   Athletic Field User Group interviews, survey and comments clearly show that there are other groups and individuals that would use the fields if they were available. This seems to be particularly true of the need for rectangular fields. The utilization model verifies the needs indicated here. The following table shows the utilization by study week.

Peak Week	Diamond Field Utilization			Rectangular Field Utilization		
	Demand (Hrs)	Supply (Hrs)	Utilization Percentage	Demand (Hrs)	Supply (Hrs)	Utilization Percentage
3-20-06	496	585	84.79	175	249	70.42
6-04-06	489	669	73.09	155	298	52.10
9-17-06	125	117	106.8	414	650	63.7
11-12-06	115	89	129.2	400	412	97.1

Table 3—Athletic Field Utilization Model Results

The utilization models are included in Appendix I—Athletic Fields Data, along with a description of how they work and possible alternatives that can be evaluated. For the Recreation Plan development process, the models were

created at the basic level. This means that the Utilization Model Results shown in the table above are a best-case scenario given the data received from the sports organizations. If rain-outs or other barriers to play are included, the field availability will be reduced. The table shows a heavily utilized set of fields. The fact that there is a greater percentage of utilization in the late fall and early spring reflects the lack of field lights during the season. In all likelihood, the number of teams and participants is constrained by the knowledge that the fields will not be available halfway through the season. Building new fields may not resolve the supply issue unless the fields are lighted.

In summary:

1. The need for additional athletic field capacity is very high.

2. The ability to meet the capacity through additional fields will be marginally effective unless fields are lighted.

3. Fields need to be maintained to provide playability.

5.3 Athletic Facility Options

The primary issue surrounding the athletic fields in Mountain View is one of "*playability.*" Athletic fields should be safe; free from rocks and debris; grassed, to some extent, where it is supposed to be grassed; and free from pits, holes and uneven surfaces. The effort needed by staff to keep the existing fields in some sort of "playable" condition is exceeded only by the increasing costs of maintaining these fields. The result is marginal fields.

Most of the soils in Mountain View are a variety of clay that have poor drainage, do not retain humus and do not allow adequate root growth to stabilize the grass and create a turf. When faced with heavy and frequent use, these fields are only one event of "play on a wet field" from losing significant grass coverage on the field. This can result in no grass for the remainder of the season. The problem is exacerbated by the year-round use of the fields, which prevents the fields from recovering until they are "taken out of service."

The only effective means of resolving these playability issues is to either undertake: (a) complete field renovation; or (b) strategically place synthetic turf to accommodate the heaviest use. Both options are expensive. These options are discussed below.

Complete Field Renovation—Involves: (1) stripping the existing soils, (2) installing effective underground drainage for both rain and irrigation water, and (3) replacing soils with a sand dominant (60 percent to 80 percent) mixture. A rigorous turf management program is needed to maintain the new turf. This is labor-intensive and along with the cost of the materials, supplies and equipment make a complete field renovation a very expensive approach. Further, excessive use can still damage the turf, requiring major renovation every 10 years or so. A renovation will generally enable a field to be used from 300 to 500 hours a year.

Synthetic Grass Field—Involves: (1) stripping the existing soils, (2) installing effective underground drainage for both rain and water, and (3) replacing the soils with a subbase for the synthetic turf and carpeting the field with the new varieties of synthetic turf. Synthetic turf is a nonabrasive surface that plays like natural grass. It is very durable and can withstand virtually unlimited play unlike natural turf. The shape, texture, feel and spacing of the synthetic grass fibers are all designed to resemble real grass. There are many benefits of synthetic turf fields compared to traditional playing surfaces, including:

- Rain drains off of the field quickly.
- The field maintains its resilient qualities over time and will not stiffen, thus enabling athletes to enjoy a consistent natural bounce to the surface throughout the life of the field.
- Maintenance is minimal; there is no mowing, irrigation, fertilization, weed control, aeration or overseeding required.
- Players can use all types of athletic shoes and have good traction in wet or dry conditions.
- The turf is nonabrasive and allows athletes to pivot or slide on the turf surface, without risk of "turf burn" injuries.
- Synthetic turf fields, if lighted, are available during all seasons and most weather conditions or over 2,000 hours per year. Unlighted fields are available about 1,000 hours a year.

Given that the cost of installation is about the same for synthetic grass and the complete field renovation, the synthetic turf is actually the more economical of the two options due to the reduced field maintenance requirements. This can release staff resources to undertake priority maintenance that has been under-

resourced, thereby increasing productivity. It also provides a facility built for year-round use and increases the utilization of fields without damaging them.

An even more sound approach from an economic and playability standpoint is to invest in synthetic surfaces **and** light the synthetic field areas. Conversion of fields to synthetic turf with lighting will increase the capacity of each improved field area by approximately 62 percent.